

VENTURI CLUSTER, AND BURNERS AND METHODS EMPLOYING SUCH CLUSTER

ABSTRACT OF THE DISCLOSURE

A burner arrangement includes a venturi cluster including a plurality of venturis arranged for parallel flow. The multi venturi arrangement utilizing pressurized fuel as the inducing fluid to induce a flow of air enables the provision of an ultra fuel lean premix of fuel and air. A central burner tube which extends outwardly beyond the delivery end of a primary burner tip and mounts a relatively small capacity nozzle at a substantial distance from the delivery end of the burner tip enabling the ultra fuel lean mixture to expand and slow down such that its linear speed does not exceed the flame speed of the mixture prior to by the flame of the spaced nozzle. A deflector may be positioned adjacent the nozzle to assist in stabilizing the flame after the expansion and slowing process has been completed.